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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,194	07/15/2003	Eric N. Paton	039153-0646	8693
26371	7590	02/27/2004	EXAMINER	
FOLEY & LARDNER 777 EAST WISCONSIN AVENUE SUITE 3800 MILWAUKEE, WI 53202-5308			GARCIA, JOANNIE A	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/620,194

Applicant(s)

PATON ET AL

Examiner

Joannie A Garcia

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 5-7, and 15-20, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "low" in claims 5-7, and 15-18, is a relative term, which renders the claims indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. If applicant intends a particular temperature, it should be clearly recited.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, and, 7-17, are rejected under 35 U.S.C. 102(a) as being anticipated by Chong et al (US 2002/0098689).

Chong et al discloses forming a gate structure 18 above a strained germanium containing substrate 10 (Figure 1, and Paragraph 0019), forming by CVD a first layer 20 comprising silicon nitride or silicon dioxide above said gate structure and above said strained germanium containing substrate (Figure 4, and Paragraph 0022), forming by CVD a second layer 30 containing titanium above said first layer (Figure 7, and Paragraph 0025), implanting non-neutral dopants 34 into

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said strained germanium containing substrate through said first and second layers reducing germanium back sputtering forming source and drain regions 22 (Figure 8, and Paragraph 0026), rapid thermal annealing the strained germanium containing substrate to activate dopants in the source and drain regions at a temperature above 600 °C (Paragraphs 0027 and 0030), forming a silicon nitride insulative material 32 above the first layer (Figure 9, Paragraph 0027, and Table of Capping Materials), and removing the second layer after the rapid thermal annealing step (Figure 11, and Paragraph 0031).

Claims 6, and 18-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chong et al as applied to claims 1-5, and, 7-17 above, and further in view of Yang et al (U.S. Patent 6,306,722), and the following comments.

Chong et al discloses forming the silicon dioxide first layer 20 by a CVD process above the substrate 10 (Paragraph 0022). Chong et al does not teach forming said silicon dioxide first layer using an LPCVD process in an oxygen and silane atmosphere.

Yang et al discloses forming a silicon dioxide layer 110 above substrate 100 using an LPCVD process in an oxygen and silane atmosphere (Figure 1C, and Column 2, lines 47-62). It would have been within the scope of one of ordinary skill in the art to combine the teachings of Chong et al and Yang et al to enable the step of forming first layer 20 of Chong et al to be performed.

With respect to claim 6, it would have been a matter of routine optimization within the teachings of Chong et al to determine a suitable temperature to achieve the first and second formation steps.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956 until 2/4/04. See MPEP 203.08.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Joannie Adelle García whose telephone number is (571) 272-1861. The examiner can normally be reached on Monday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri, can be reached on (571) 272-1855. The fax number for this group is 703-872-9306 for before final submissions, 703-872-9306 for after final submissions and the customer service number for group 2800 is (703) 872-9317. Updates can be found at <http://www.uspto.gov/web/info/2800.htm>.

JAG

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January 9, 2004

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